Cavernous haemangioma with cyst formation coexisting with giant non-parasitic cyst in the liver

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DESCRIPTION
A woman in her late 70s complained of abdominal fullness, then she was referred to our hospital due to massive non-parasitic liver cysts. All laboratory findings including liver function tests and tumour markers were also within the normal limits. Serological markers for hepatitis B or C viral infection were undetectable. Enhanced CT revealed a huge liver cyst 27 cm in diameter occupying the entire right lobe, and another cyst 10 cm in diameter occupying the entire left lateral lobe (figure 1A). MRI revealed that the cyst in the right lobe did not contain a solid component. On the other hand, the cyst in the left lobe had slight elevated signal intensity and some foci of high signal intensity on T1-weighted images (figure 1B). T2-weighted images also showed low intensity in the corresponding foci of high intensity on T1-images and a solid component was inside of the cyst (figure 1C). With these radiological findings, we determined that giant non-parasitic cysts in the liver, and the cyst of the left lobe was considered to be an old haemorrhage in the cyst, particularly. The patient underwent laparoscopic deroofing for the symptomatic liver cysts. During surgery, the cyst in the right lobe was aspirated. No admixing of blood or bile was recognised, and the cyst wall was resected at the junction of the cyst and the liver parenchyma using a vessel sealing device (figure 1D). Thereafter, the other smaller cyst in the left lateral lobe was also aspirated, but this time the cyst fluid was brownish due to the presence of bilirubin. The cyst wall was relatively thick and necrotic debris was found within the lumen (figure 1E). We diagnosed the smaller cyst as a neoplastic tumour, possibly cystadenocarcinoma, and performed a left lateral segmentectomy. The resected specimen showed the cystic mass in left lateral segment measured 12 × 11 cm in size (figure 2A). The postoperative bacterial culture of the cyst fluid showed no bacteria with a total bilirubin concentration of 2.1 mg/dL. Microscopic examination revealed cavernous haemangioma with cyst formation. In the boundary of the cavernous haemangioma, shrunken haemangioma cells with condensed nuclei were evident, considering morphological apoptosis (figure 2B). Tumour’s cystic degenerations have been suspected to be caused by

Figure 1  A CT revealed huge cysts in bilateral lobe of liver (A). MRI showed that the cyst in the left lobe had some foci of high signal intensity on T1-weighted images (B; arrow). T2-weighted images also showed low intensity in the corresponding foci of high intensity on T1-images (C; white arrow) and a solid component was inside of the cyst (C; black arrows). Laparoscopic view of the lumen of the cyst in the right lobe (D) and in the left lobe (E).
Images in…

Figure 2  (A) The resected specimen. (B) Histopathological findings.

Learning points

► Hepatic cavernous haemangioma with cyst formation is an extremely rare, and may be difficult to identify preoperatively.
► Tumour's cystic degenerations should be considered in an atypical cyst that contain a solid component in side of the cyst.

necrotic changes induced by the infarction developing due to vessel’s occlusion. Cavernous haemangioma of the liver with cyst formation is an extremely rare condition, and only four such cases have been reported previously.2

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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REFERENCES